

## RESISTANCE EXERCISE APPARATUS AND TRAINER

### Abstract of the Disclosure

An apparatus for providing exercise to recreational users and training to professional users comprising a support frame on which a bicycle frame is mounted  
5 and a resistance generation unit coupled to the support frame to provide resistance against the pedaling of the user. The resistance unit comprises a magnetic field generation source and a flywheel having an annular ring constructed from a plurality of segments of a non-magnetic, conductive material. The resistance exercise  
10 apparatus and trainer utilizes the flywheel to eliminate the need for the conventional rear wheel of a bicycle. The use of the flywheel as part of the resistance generation unit creates a "single-stage" resistance exercise trainer, because the resistance generated on the flywheel is transmitted to the user through a direct chain drive of a conventional bicycle. According to another aspect of the present invention, the  
15 resistance exercise apparatus includes a chain tensioning mechanism. The chain tensioning mechanism provides a method of tightening or loosening the tension of the chain to improve the overall efficiency of the chain drive mechanism and prevent the chain from "jumping" off the chain ring during operation.

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